

Blue

Work Order ID 53416



Page 1

November 4, 2009 7:40:02 AM

Item ID: D206-667-203TRN

Accept



Setup Start



Revision ID: C

Stop



Item Name: Crosstube Turning Detail

Start Date: 11/04/09 Start Qty: 1.00



Cust Item ID:

Required Date: 11/06/09 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan:

*PS*Date: *09-11-14*

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

Draw Nbr

Revision Nbr

D206-667-243

Rev C

100

0.00



MORI SEIKI CNC LATHE LARGE

Mori Seiki

Memo

0.00

Mori Seiki CNC Lathe Large

1-Fill tube with sand & install plugs DT8534 on both ends as per Folio FA089□2-Turn first side as per Folio FA089□3-File down transition lines smooth.

A.M. 09-11-14 (1)

110

0.00



QC1- Inspect dimensions to dimension sheet

QC

Memo

0.00

Quality Control

A.M. 09-11-14 (1)

120

0.00



MORI SEIKI CNC LATHE LARGE

Mori Seiki

Memo

0.00

Mori Seiki CNC Lathe Large

1-Turn second side as per Folio FA089□2-File down transition lines smooth.
□
3-Remove sand and plugs□4-Scrib part# and batch #

A.M. 09-11-14 (1)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 53416

Page 2

November 4, 2009 7:40:02 AM

Item ID: D206-667-203TRN

Accept



Setup Start



Revision ID: C

Stop



Item Name: Crosstube Turning Detail

Start Date: 11/04/09 Start Qty: 1.00



Cust Item ID:

Required Date: 11/06/09 Req'd Qty: 1.00

Customer:

Reference:

Run Start



Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	----------------	--------------	--------------	---------------	---------------	------------------	----------------

130	QC1- Inspect dimensions to dimension sheet	0.00							
-----	--	------	--	--	--	--	--	--	--



QC	Memo	0.00							
----	------	------	--	--	--	--	--	--	--

Quality Control

A.M. 09-11-16 140

140	QC8- Inspect parts - second check	0.00							
-----	-----------------------------------	------	--	--	--	--	--	--	--



QC	Memo	0.00							
----	------	------	--	--	--	--	--	--	--

Quality Control

1 - - A.M. 9-11-16

150	Crosstubes Chemical Conversion	0.00							
-----	--------------------------------	------	--	--	--	--	--	--	--



HandFXtube	Memo	0.00							
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Hand Finishing Crosstubes

1 - - A.M. 9-11-16

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 53416

November 4, 2009 7:40:03 AM



Page 3

Item ID: D206-667-203TRN
Revision ID: C
Item Name: Crosstube Turning Detail
Start Date: 11/04/09 Start Qty: 1.00
Required Date: 11/06/09 Req'd Qty: 1.00
Reference:

Accept



Setup Start



Stop



Cust Item ID:

Customer:



Approvals: Process Plan: _____
QC: _____

Date: _____ Tooling: _____ Date: _____

Date: _____ SPC (Y/N): _____ Date: _____

Run Start



Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

160



QC

Quality Control

QC3- Inspect Part Finish

Memo

0.00

0.00

1 11/9/16

170



Packaging

Packaging

Packaging

Memo

Identify and Stock in kanban rack ☐ Location: X-TUBE CELL

0.00

0.00

1 - 11/9-11-16

180



QC

Quality Control

QC21- Final Inspection - Work Order Release

Memo

0.00

0.00

09/11/16

ME 09-11-16

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

November 4, 2009 7:40:02 AM

Page 1

Work Order ID: 53416

Parent Item: D206-667-203TRNRevC

Parent Item Name: Crosstube Turning Detail

Comments:

Start Date: 11/04/09

Required Date: 11/06/09

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D6004-115RevA		Manufactured	No			100	Each	70.0000	1.0000			



Crosstube Material



0.00 09-11-149

Warehouse
Location

Loc Qty

Loc Code

Main Warehouse

LG

70

34685

17

34774

23

38336

30

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD	Work Order:	53414
Description: Crosstube Assembly	Part Number:	D206-667-243
Inspection Dwg: D206-667-243 Rev: B		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article
 ☐ Prototype

Inspection Sheet	Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
SIDE A	2.490	+0.005/-0.000	2.490	/			
	2.018	+0.005/-0.000	2.023	/			
	2.079	+0.005/-0.000	2.084	/			
	2.145	+0.005/-0.000	2.150	/			
	2.209	+0.005/-0.000	2.214	/			
	2.287	+0.005/-0.000	2.291	/			
	2.363	+0.005/-0.000	2.365	/			
	2.433	+0.005/-0.000	2.438	/			
	0.200	+/-0.010	0.200	/			
	0.500 x 30°	+/-0.010	0.500x30°	/			
	R0.063	+/-0.010	R0.063	/			
	R0.500	+/-0.010	R0.500	/			
	4.438	+/-0.030	4.438	/			
	104.91	+/-0.020	104.910	/			
SIDE B	2.490	+0.005/-0.000	2.491	/			
	2.018	+0.005/-0.000	2.023	/			
	2.079	+0.005/-0.000	2.084	/			
	2.145	+0.005/-0.000	2.150	/			
	2.209	+0.005/-0.000	2.214	/			
	2.287	+0.005/-0.000	2.291	/			
	2.363	+0.005/-0.000	2.365	/			
	2.433	+0.005/-0.000	2.438	/			
	0.200	+/-0.010	0.200	/			
	0.500 x 30°	+/-0.010	0.500	/			
	R0.063	+/-0.010	R0.063	/			
	R0.500	+/-0.010	R0.500	/			
	4.438	+/-0.030	4.438	/			

Measured by:	G.M	Audited by:	AWM	Prototype Approval:	N/A
Date:	08.11.14	Date:	9-11-16	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	06.09.01	New Issue (P/O D206-667-203)	KJ/JLM	

Item	Qty -243	Part Number	Description
1	X	D206-667-243	CROSSTUBE ASSEMBLY (206L HIGH AFT)
2	1	D6004-115	CROSSTUBE
3	2	D2873-043	NUT PLATE
4	2	D2873-045	NUT PLATE
5	2	D2892-1	SUPPORT
6	4	D3595-063-450	RUBBER CUSHION
7	4	MS21920-22	CLAMP
8	14	MS20601AD4W10	RIVET (OR NAS9302B-4-10)
9	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299- 947-100, TYPE II, CLASS 2 ADHESIVE)

GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6004-115
FINISHED LENGTH = 104.91±0.020
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART QSI 005 4.2
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: SCRIBE DART PART NUMBER "D206-667-243" AND BATCH NUMBER ON
INSIDE OF CUFF USING VIBRATING STYLUS.
- 7) WEIGHT: 21.9 lbs
- 8) PART IS SYMMETRIC ABOUT CENTERLINE.
- 9) RUN CUTTER OFF PART WHERE INDICATED. BLEND OUT EDGE LONGITUDINALLY,
TRANSITION SHOULD BE SMOOTH.
- 10) BEND PROGRESSIVELY WITH A MINIMUM OF 8 PASSES. MAXIMUM TUBE FLATTENING DUE
TO BENDING IS 6% BASED ON O.D.
- 11) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 12) INSTALL D2892-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 PER
QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 13) INSTALL MS21920-22 CLAMPS WITH D3595-063-450 RUBBER CUSHIONS TO SECURE THE
D2892-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMP MECHANISMS ARE
LOCATED ON CROSSTUBE SUPPORTS.
- 14) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE
OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS
SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT
LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS ARE SHOWING IN
SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

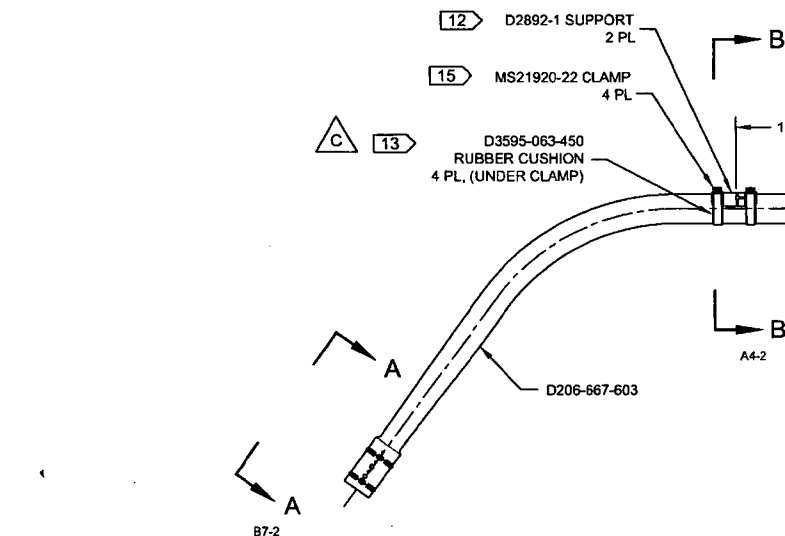
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6/11/12

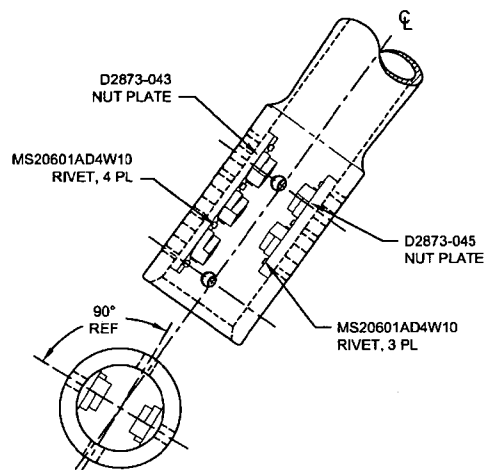
C	REVISE GENERAL NOTES/PART LIST (ZN D7-1); REORGANIZED VIEWS AND REFORMATTED DRAWING TO CURRENT STANDARDS. D3595-063-450 WAS D2856-400-773 (ZN D6-2 & A5-2); REMOVED REF. & ADD TOLERANCES (ZN 4-3, C5-3, D3-3); RELOCATED FLAG #6 (ZN A8-3) PER NCR 210; MOVED TURNING DETAIL & UPDATED TOLERANCE TO SHEET 4.	RF	08.11.06
B	ADD HOLES AND NUT PLATES FOR COMPATABILITY WITH BHT/AA SKUDTUBES	PH	05.07.26
A	NEW ISSUE	CP	00.11.17
REV.	DESCRIPTION	BY	DATE
DESIGN	<u>90</u>	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	<u>90</u>	DRAWING NO.	REV. C
MFG. APPR.	<u>90</u>	D206-667-243	SHEET 1 OF 4
APPROVED	<u>90</u>	TITLE	SCALE
DE APPR.	<u>90</u>	CROSSTUBE ASSY (206L HIGH AFT)	NTS
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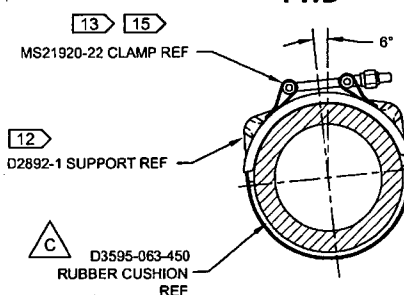
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6/11/72 NTD



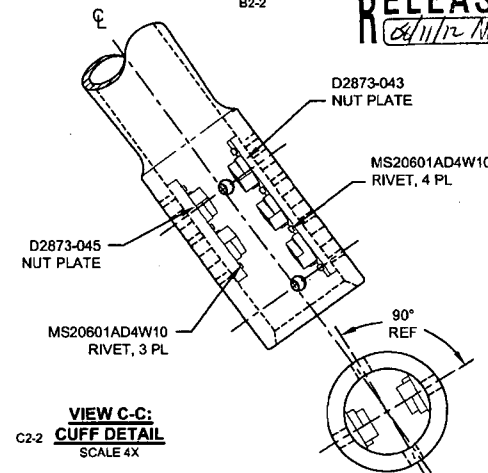
**D206-667-243
ASSEMBLY DETAIL
(VIEW LOOKING FWD)**



**VIEW A-A:
CUFF DETAIL
SCALE 4X**



**SECTION B-B
SCALE 5X**



**VIEW C-C:
CUFF DETAIL
SCALE 4X**

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CHECKED	40	DRAWING NO. REV. C
MFG. APPR.	40	D206-667-243 SHEET 2 OF 4
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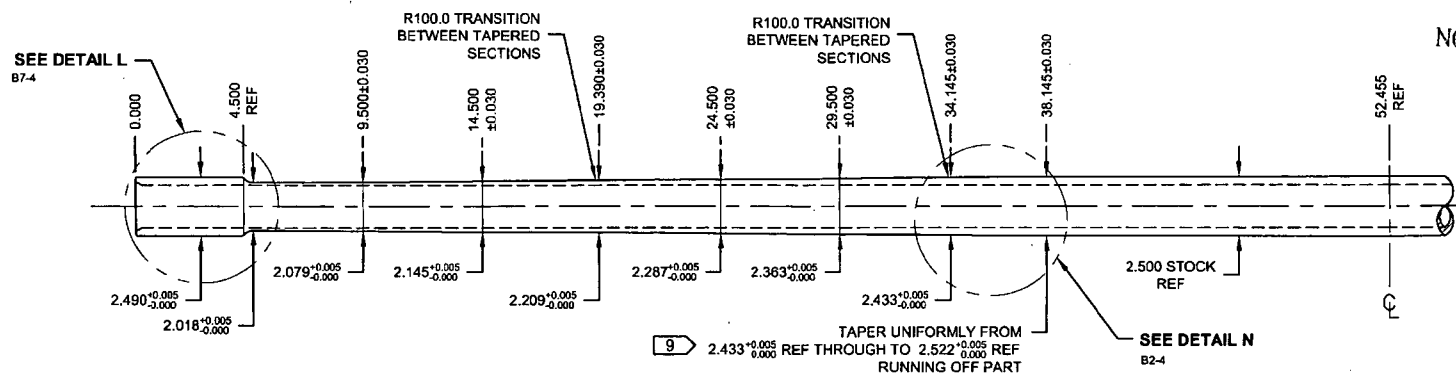
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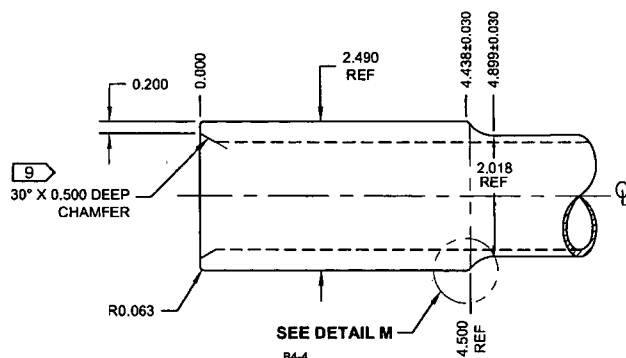
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CHECKED	Q	DRAWING NO.	REV. OF
MFG. APPR.	E	D206-667-243	SHEET 3 OF 4
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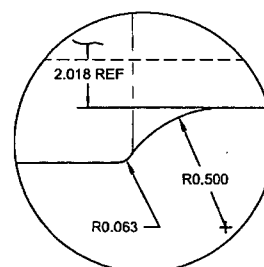
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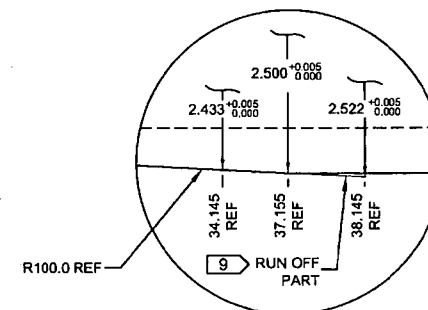
C TURNING DETAIL



C7-4 DETAIL L: CROSSTUBE CUFF
NOT TO SCALE



**B6-4 DETAIL M:
CUFF TRANSITION**
NOT TO SCALE



**C4-4 DETAIL N:
TAPER RUN-OFF**
NOT TO SCALE

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08/11/06

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MFG. APPR.	40	D206-667-243	SHEET 4 OF 4
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DE APPR.	40	CROSSTUBE ASSY (206L HIGH AFT)	NTS
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